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EXAMINER
KANG, INSUN

ART UNIT	PAPER NUMBER
2193	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 May 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-8</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-8</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1.   This action is in response to the RCE amendment filed 5/3/2005.

2.   Claims 1-8 are pending in the application.

Claim Rejections - 35 USC § 103

3.   Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,633,888 to Kobayashi in view of Applicant's Admitted Prior Art (hereinafter

referred to as "APA") disclosed in the instant application.

Per claim 1:

Kobayashi teaches:

- testing a software test component (i.e."testing newly created component classes within

the visual builder interface," in col 4 lines 62)

- ascertaining a public interface of the software test component (i.e. "once the interface

of a bean is known, a programmer can create a new customized component from the

base Java bean component," col 7 lines 31-45; see also col 8 lines 33-58; col 8 lines

33-58; col 8 lines 33-58)

- creating a wrapper component for the software test component (i.e. "a proxy

component is created for each method, including constructors," abstract) by the

substeps of defining a wrapper component interface to mirror the public interface of the

software test component (i.e. "the parser/extractor 304 parses each constructor and

each method and extracts any related fields, comments, and parameter names," col. 8

lines 46-58 ; "proxy component encapsulates the parameters of that method. In

particular, parameters associated with a method are represented by properties of the

proxy component created for that method," col 5 lines 1-9)

- defining the wrapper component to delegate to the software test component (i.e. "a

proxy component is created for each method, including constructors," abstract ; "the

bean compiler converts each component into proxy components," col 8 lines 8-19) by

including calls to the public interface of the software test component within the wrapper

component (i.e. "constructor and methods objects instantiated by the proxy beans 210

within bean-based application 216 to call the appropriate constructors and methods for

the target class in the implementation code," col. 9 lines 40-54 ; "the methods of proxy

beans are invoked, they use the universal transport mechanism to invoke the actual

component code in order to test the method," col 22 lines 41-53; see also col 12 lines

18-25).

    Kobayashi teaches that the "proxy components can be manipulated ...[and] Each

composite component in the application can be tested...under control of the proxy

components (col 8 lines 8-32; col. 22 lines 54-67 and col. 23 lines 1-6)." Although the

proxy component can be edited to insert test code to capture and playback of user

interaction with the interface, Kobayashi does not explicitly states capturing and

playback of user interaction. APA discloses that such "GUI capture and playback

tooling (page 1, specification)" was known in the art of software development and

testing, at the time applicant's invention was made, to make "the recorded user-GUI

interfaction available for repeated test cases (page 1, specification)." It would have

been obvious for one having ordinary skill in the pertinent art to modify Kobayashi's

disclosed system to capture and playback user interactions disclosed in APA. The

modification would be obvious because one having ordinary skill in the art would be

motivated to record user-GUI interaction so that it can be used for repeated test cases

(page 1, specification) as taught by APA.

- enabling a test case to use the wrapper component interface to access the software

test component and to generate test data from the test code in the wrapper component

(i.e. "when the methods of proxy beans are invoked, they use the universal transport

mechanism to invoke the actual component code in order to test the method... the

method parameters of the original bean are exposed by the proxy components created

from the methods of that bean," col 22 lies 46-53).

substantially as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Kobayashi teaches:

- the software test component is an object-oriented software test component (i.e. "The

beans to be tested," col 22 lines 18-40)

- interrogating a test component definition to determine public methods, constructor and

associated parameters for the software test component (i.e. "the parser/extractor ...

parses each constructor and each method and extracts any related fields, comments,

and parameter name," col 8 lines 33-58)

as claimed.

Per claim 3:

The rejection of claim 2 is incorporated, and further, Kobayashi teaches:

-the test component is a Java language class (i.e. "The beans to be tested," col 22 lines

18-40)

- use of an introspection group of interfaces in a Java Bean specification (i.e. "the

parser/extractor ... parses each constructor and each method and extracts any related

fields, comments, and parameter name," col 8 lines 33-58)

as claimed.

Per claim 4:

The rejection of claim 2 is incorporated, and further, Kobayashi teaches:

- defining public methods, constructors and associated parameters in the wrapper

component to mirror the public methods, constructors and parameters determined for

the software test component (i.e. "Using the extracted constructor information, the

compiler module creates and compiles a constructor bean such as beans and ... The

compiler ... also creates a method bean from extracted information for each method in

the class," col 8 lines 33-58; "a proxy component is created for each method, including

constructors ... which proxy component encapsulates the parameters of that method. In

particular, parameters associated with a method are represented by properties of the

proxy component created for that method," col 5 lines 1-9)

as claimed.

Per claim 5, this is the computer program product version of claim 1,

respectively, and is rejected for the same reasons set forth in connection with the

rejection of claim 1 above.

Per claims 6-8, they are the system versions of claims 1, 2 and 4, respectively,

and are rejected for the same reasons set forth in connection with the rejection of claims

1, 2 and 4 above.

Response to Arguments

4.   Applicant's arguments filed 5/3/2005 have been fully considered but they are not

persuasive.

Per claim 1:

The applicant states that Kobayashi does not disclose: "mirror the public

interface of the object (software test component)."

In response, it is noted that the limitation is not recited in the claim 1. Although

the claims are interpreted in light of the specification, limitations from the specification

are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057

(Fed. Cir. 1993). As such, the claims are read with the broadest reasonable

interpretation in mind (Note MPEP 2111).

Further, the examiner points out that a wrapper in the **Java programming language** is an object that **encapsulates and delegates** to another object for altering its behavior or interface. This wrapper operates as a "proxy" for the actual component as acknowledged in the instant specification (page 10). The generation of this wrapper such as the limitations in the instant claim is possible though **Java language features in the Java Bean specification**. The instant specification also states that defining the wrapper component is possible by using tools such as the "introspection group of interfaces in the Java Bean specification." Such tools permit a wrapper generator to ascertain the members in the actual component to be used to define the proxy wrapper (page 10). Therefore, it is evident that the present invention simply uses the existing Java language features in the Java Bean specification to create a wrapper component.

Kobayashi's proxy bean acts as a delegate to the API of the actual bean and Kobayashi uses the parsing/extracting mechanism to determine/describe (i.e. introspection) and **obtain (i.e. reflection) information about the members of a class such as the properties, methods, and constructors** (i.e. "the parser/extractor 304 parses each constructor and each method and extracts any related fields, comments, and parameter names," col. 8 lines 46-58). **This extracting mechanism extends the conventional extraction process of "reflection" in the Java Bean specification so that the mechanism does not only determine the method parameters but also allows the "parameters to be converted to properties of the method bean created from the original method (col. 9 lines 1-19)." Using this extraction process (i.e. reflection), the APIs for all the classes can be retrieved and a proxy bean can be**

generated. Therefore, Kobayashi discloses the limitation, "wrapper is created having an

interface to mirror the public interface of the software test component." If applicant

means anything more, this must be brought out in the claims to further clarify the

invention.

The proxy bean is a wrapper bean for a call to a Java object method or Java

constructor (i.e. "a proxy component is created for each method, including constructors,

in the component class code, which proxy component encapsulates the parameters of

that method" abstract). Kobayashi discloses calls to the public interface of the actual

bean (i.e. "constructor and methods objects instantiated by the proxy beans 210 within

bean-based application 216 to call the appropriate constructors and methods for the

target class in the implementation code," col. 9 lines 40-54). Therefore, Kobayashi

discloses that a wrapper component is defined to delegate to the software test

component by including calls to the public interface of the software test component.

With a proxy, the code of existing classes need not be modified. The proxy

class implements the same interface and uses a target object as a delegate. Kobayashi

discloses, "the bean is checked to ascertain if it is operating properly. In some cases

the result of the test can be ascertained visually... if the bean responds to an event by

running a graphics image, the image should be displayed... In other cases property

values must be checked... the operator may then choose to edit the bean... then

proceeds ...to retest it (col. 22 lines 54-67 and col. 23 lines 1-6)." In order to generate

the test result and check the property values, the need to add some type of test code is

necessary to determine if the bean operates properly. Further, Kobayashi discloses,

"once the proxy beans are constructed, they can be displayed, **manipulated and tested** by means of a bean tester (i.e. col. 17 lines 38-42)." Therefore, Kobayashi is capable of modifying the proxy bean in a specific way for a particular purpose.

Kobayashi recites, "a user has a bean... proxy bean... the bean to be tested is loaded into the tester... the methods of proxy beans ... invoke the actual component code in order to test the method ... the method parameters of the original bean are exposed by the proxy components created from the methods of that bean. Consequently, each method can be tested fully (col. 22 lines 30-54)." Therefore, it is clear that the tester uses the proxy bean to invoke the actual bean to be tested. Accordingly, Kobayashi discloses enabling a test case to use the wrapper... in the wrapper component.

The applicant's argument, Kobayashi does not disclose "recording of capture and playback of user interaction with the public user interface," is moot in view of new ground of rejection above.

Kobayashi discloses the limitations in claim 1 in view of the broadest reasonable interpretation and new ground of rejection as shown above. Therefore, the rejection of claim 1 is considered proper and maintained.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-F 7:30-4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 571-272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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5/27/2005

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